

ABSTRACT OF THE DISCLOSURE

A polarization independent tunable optical filter comprises an inherently polarization sensitive angle-tuned filter element and polarization-maintaining multi-pass optics for directing a light beam to and fro through the tunable filter element while maintaining its linear state of polarization. An optical spectrum analyzer apparatus comprises such a tunable optical filter in combination with a polarization control unit for decomposing a light beam for analysis into first and second beams having mutually orthogonal states of polarization (SOPs) and then adjusting one or both SOPs so that they are parallel to each other and to one of the principal axes of an inherently polarization sensitive angle-tuned filter which selects different wavelengths of the first and second light beams. The light beams are passed through the filter repeatedly by multi-pass polarization-maintaining optics.

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